

We claim:

- 1 1. A vessel, comprising:  
2 a hull having multiple operating modes; and  
3 a system operable to select one of the operating modes.
- 1 2. The vessel of claim 1 wherein the system comprises a ballast system that is  
2 operable to select one of the operating modes by adjusting the draft of the vessel to a  
3 level that corresponds to the selected operating mode.
- 1 3. The vessel of claim 1 wherein the system comprises a ballast system that is  
2 operable to select one of the operating modes by adjusting a level of ballast within the  
3 vessel.
- 1 4. The vessel of claim 1, further comprising:  
2 a payload; and  
3 wherein the system comprises a ballast system that is operable to select one of  
4 the operating modes by adjusting the draft of the vessel using the payload.
- 1 5. A water vessel, comprising:  
2 a hull having a first hull portion and a second hull portion and having multiple  
3 operating modes; and  
4 a ballast system disposed within the hull and operable to select one of the  
5 operating modes corresponding to a predetermined mission by adjusting the draft of the  
6 vessel.

- 1 6. The vessel of claim 5 wherein the ballast system is operable to select a  
2 catamaran mode of operation by adjusting the draft of the vessel such that the hull is in  
3 a catamaran position with respect to the surface of the water.
- 1 7. The vessel of claim 5 wherein the ballast system is operable to select a SWATH  
2 mode of operation by adjusting the draft of the vessel such that the hull is in a SWATH  
3 position with respect to the surface of the water.
- 1 8. The vessel of claim 5 wherein the ballast system is operable to select a  
2 low-freeboard mode of operation by adjusting the draft of the vessel such that the twin is  
3 in a low-freeboard position with respect to the surface of the water.
- 1 9. The vessel of claim 5 wherein the ballast system is operable to select a  
2 shallow-water mode of operation by adjusting the draft of the vessel such that the hull is  
3 in a shallow-water position with respect to the surface of the water.
- 1 10. The water vessel of claim 5, comprising:  
2 a payload; and  
3 wherein the ballast system is operable to adjust the draft of the vessel using the  
4 payload.
- 1 11. The water vessel of claim 5 wherein the first hull portion is parallel or  
2 approximately parallel to the second hull portion.
- 1 12. A method, comprising:  
2 selecting one of multiple hull modes for a water vessel; and  
3 operating the vessel in the selected hull mode.

- 1 13. The method of claim 12 wherein selecting the hull mode comprises setting a draft  
2 of the water vessel to a level that corresponds to the hull mode.
- 1 14. The method of claim 12 wherein the hull of the vessel, in the selected hull mode,  
2 has a corresponding hydrodynamic property that is related to a submerged portion of  
3 the hull.
- 1 15. The method of claim 12 wherein selecting the hull mode comprises adjusting the  
2 draft of the water vessel to a corresponding level.
- 1 16. The method of claim 12 wherein selecting the hull mode comprises adjusting the  
2 amount of ballast on the water vessel.
- 1 17. The method of claim 12 wherein selecting the hull mode comprises adjusting the  
2 amount of payload on the vessel.
- 1 18. The method of claim 12 wherein selecting the hull mode comprises adjusting the  
2 amount of payload and ballast on the water vessel.
- 1 19. The method of claim 12 wherein selecting the hull mode comprises adjusting a  
2 position of a payload relative to the water line.